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CONTENTS.

	Page.
Louis Agassiz. *Illustrated.* By Prof. L. F. Watson	195
"Clergymen as Scientific Men." By J. J. Summerbell	198
Hymn—Loving the Lord. By Mrs. Mary E. Fish	201
The Seige of Magdeburg. By E. A. Devore, A. B.	202
The Idea of the College. By President T. C. Smith	205
The Tachypomp. *Concluded.*	208
"It's Books." By W. H. Venable	212
EDITORIAL NOTES:	
Make Haste Slowly—Class Work—Our Cabinet—The Centennial Gift—Literary Societies—Lessons in Zoology—Prize	214, 216
Scientific Notes	216
Our Exchanges	218
College Personals and Locals	220
Astronomical Notes	223
Waubleau Institute	224
Christian Biblical Institute	225
Publisher's Notes	225

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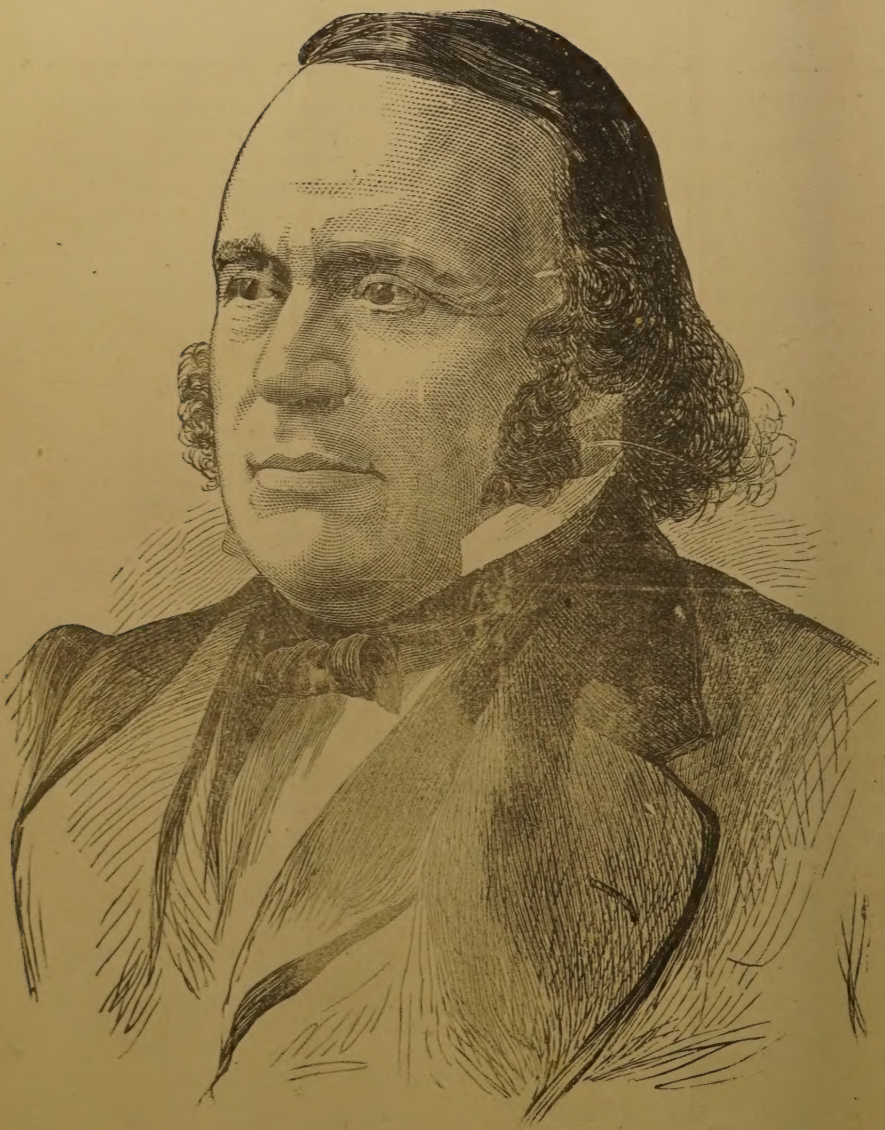

OUR WORK.

VOL. I. DECEMBER, 1876. NO. 7.

LOUIS AGASSIZ.

BY PROF. L. F. WATSON.

Louis John Rudolph Agassiz, M. D., Ph. D., LL. D., F. R. S., was born in the parish of Mottier, Switzerland, May 28, 1807. His father was pastor of St. Imier, as indeed had been his lineal ancestors for five generations. Agassiz was also fortunate in having a most excellent mother, the daughter of a physician, and a woman of considerable culture. She superintended the education of her son Louis until he reached his twelfth year; and who can say that the faith he had in the truth of the Bible, which kept him from falling into the errors so common to scientific men, was not largely due to his early home influences!

Before he was fifteen years old he had made considerable progress in the study of natural sciences at the gymnasium of Bienne. His vacations were spent in studying plant life. At the age of seventeen he entered the medical school of Zurich, where he remained two years. Gradually, as the love for the study of the natural sciences increased, he gave up the idea of being a physician. In 1827 he entered the University of Munich, where he remained four years. It was while here that his youth gave such promise of a noble manhood. He was the means of organizing a select society of young men, who met weekly to discuss scientific subjects. So interesting were these discussions, that even the professors in that ancient Ludwig-Maximilian university asked permission to take part in them.

While still a student, Agassiz was selected by Martius to assist him in the preparation of his great work on Brazil. The ichthyological department was intrusted to Agassiz, and so faithfully was the work performed that he was at once ranked with the foremost of naturalists. It was at this time that he informed his father of his intention to abandon the profession of medicine, which information resulted in his father discontinuing his allowance. In the same year, at the age of twenty-four, he received the degree of Doctor of Philosophy from the University of Erlangen, obtained after passing a most severe examination with distinction. At about the same time he took, at Munich, the degree of Doctor of Medicine.

In the meantime he had commenced a work on the "Fresh-water Fishes of Europe," to aid in the completion of which his publisher, Cotta, advanced him money. While prosecuting this work, he became very much interested in the study of fossil species. Before completing the "Treatise of Fresh-water Fishes," he commenced the work on the "Fossil Fishes of Europe," which occupied his labors for seventeen years. The former was published in 1839–40, the latter in 1844. The confidence inspired by the author was so

great that the leading universities of the land, as well as over fifty private and public museums, offered him their most valuable specimens, with the permission to keep them from five to ten years. He was greatly assisted in his work by such eminent men as Cuvier, Humboldt, and Fitzinger. Financially, he lost a great deal; it entailed upon him a heavy debt, which cost him the labors of many subsequent years.

A writer in the American Cyclopædia, in speaking of his work on "Fossil Fishes," says: "This is in five volumes, with a folio atlas containing about four hundred plates. About one thousand species are described and figured in the natural size, with the colors of their beds, and there are short indications of seven hundred more. The discovery and description of so many new species led to the recognition of new types, and an entirely new classification, based chiefly on the characters and of importance in the fossils. The great generalizations to which these researches led have stood the test of time, and have been strengthened and extended by later investigations. The geological results of these researches were remarkable. * * * From this general survey, Agassiz drew several very important conclusions respecting the relation of the Creator to the universe. The existence of a superior intelligence, whose power alone could establish and sustain such an order of things, he considers to have been established by rigid demonstration, and on a truly scientific foundation. He believes that species do not insensibly pass into each other, but each has its appointed period, and is not connected, except in the order of time, with its predecessor."

In resting from his severe and protracted study in the preparation of these works, he spent his summer vacations in the Alpine regions. His idea of rest was not idleness. While in these summer tours, he commenced to make those investigations on the glaciers which were fraught with such important results. His investigations were upon the glacier of the Aar, where he spent six or eight summers, many miles from any human habitation, and often more than eight thousand feet above the level of the sea. Agassiz's theory of the glaciers was the same as that which had been advanced by Charpentier, and was received with disfavor—even violent opposition. The idea of the glaciers transporting rocks, boulders, etc., did not, however, originate with either Charpentier or Agassiz, but with the chamois hunters, who had actually witnessed the transportation at different times, and who pointed out the same in 1836 to these scientific men.

The theory advanced by Agassiz as briefly told by Dr. Stockbridge is this: "That the glacier is not an immovable body of ice. In large bodies, ice is not a brittle solid, but when it is saturated with water it is like a mass of tar or melted lava, and so, by various causes brought to bear upon it, there is a motion so perceptible that, with proper intervals of space intervening, the actual rate of this motion in a given case may be ascertained. Thus, a hut erected in 1827, at the foot of a permanent rock on what we may call the bank of the great icy river—the glacier of Aar—was found nine years afterward to be twenty-two hundred feet from this rock, and four years later this distance had doubled. A ladder, supposed to have been left by De Saussure at a certain point in 1788, was found, in 1842, to be 16,500 feet below this point, thus making the average annual movement of the glacier 3.75 feet."

Agassiz's researches in the Alps

are embodied in two works, appearing respectively in 1840 and in 1847.

At the suggestion of Alexander von Humboldt, ample means were provided by the Prussian government to enable Prof. Agassiz to make himself familiar with the natural history and geology of the United States. He arrived, on this mission, in Boston in the autumn of 1846. From that date to his death his biography is closely connected with the scientific history of our country. Soon after his arrival, he was elected Professor of Zoology and Geology in the Lawrence Scientific School in Cambridge, Massachusetts, a position which he held at the time of his death. He accepted this position, and resigned a similar one at Neufchatel, Switzerland, which he had occupied for fourteen years.

In the study of our animals, he traveled over the New England, Middle, and Southern States, delivering lectures in the large cities. It was at this time that he fell in with Prof. A. D. Bache, superintendent of the United States coast survey, who invited Prof. Agassiz to accompany him on his expeditions. This offer was such a good one—so liberal—and the opportunity for research, thus presented so unexpectedly to the great teacher, was so complete that he decided at once to go along with the party, exclaiming: "I am decided now to remain here to the end of my days!"

In 1848 he accompanied twelve of his pupils on a scientific exploration to Lake Superior, which was followed by a book on the subject of his researches. In the same year, in conjunction with Dr. A. A. Gould, he published "Principles of Zoology." In 1850 he spent the winter upon the reef of Florida, studying the increase of the reef. In 1851, with Prof. Hall, he made a geological survey of portions of New York. In 1852 he became a Professor of Comparative Anatomy in the Medical College of Charleston, South Carolina. The climate not agreeing with him, he remained here but two years.

From now until his death much of his time was occupied in scientific explorations. He traversed the country from the lakes on the north to the gulf on the south, and from the Atlantic coast to the Rocky Mountains. The extent of his collections made can scarcely be understood, so great is it.

In 1865, as a relaxation from his arduous labors, he proposed to visit Brazil, having had a strong desire to study the fauna of that country ever since his first labors on the Brazilian collections made by Martius. As soon as his desire became known, a Boston merchant provided for the expense of the whole trip. He set sail, with six assistants, in April, 1865. He was welcomed by Dom Pedro, and the government assigned a river steamer to his especial use. Over a year was spent by him in exploring the country, constantly accompanied and assisted by his wife. The narrative of the journey, a joint product of Prof. Agassiz and his wife, but written mainly by Mrs. Agassiz, was published in 1868.

In 1871, again feeling the need of rest, he started on a voyage around Cape Horn, with other scientific men. In this voyage, undertaken for deep-sea dredging, he learned much of the oceanic faunæ. So intense was the enthusiasm of this great teacher that money was lavishly given by the people of the United States in aid of his scientific undertakings.

In April, 1873, John Anderson, of New York, gave the island of Penikese (one of the Elizabeth Islands, southwest of Cape Cod, Mass.), comprising about one hundred acres, together with many fine buildings, which Mr. Anderson had used for a

summer resort, to Prof. Agassiz, to be used as a site for a summer school of natural history. Mr. Anderson also gave $50,000 as a fund for its maintenance. The school, known as the "Anderson School of Natural History," was opened in the summer of 1873. Scarcely had the school been organized when Agassiz was taken sick, from which sickness he never rallied. He died at Cambridge, Massachusetts, December 14, 1873. "He was not merely a scientific thinker; he was a scientific force; and no small portion of the influence he exerted was due to the energy, intensity, and geniality which distinguished the nature of the man." He was a bold and able defender of Christianity. He believed in a personal God, author of all things, ruler of the universe, and dispenser of all good. As a teacher, he was very successful; he not only communicated knowledge, but also the love of knowledge; and he was the means of calling into action the minds of a large body of young men of science. They have caught up his mantle, and are laboring faithfully in the field of investigation.

"CLERGYMEN AS SCIENTIFIC MEN."

AN OPEN LETTER.

BY J. J. SUMMERBELL.

To the Editor of the Nation:

SIR: Under the title quoted as the heading of this letter, *The Nation*, No. 591 (October 26, 1876), contains an article which I, as a minister of the gospel, not indeed a metropolitan preacher, but only the pastor of an influential country village church, consider unjust to my profession.

You speak of the "modesty or indifference of the other professions" upon the subject of evolution, sneering at the "activity" of ministers; for you think "the lawyers and doctors (physicians?) as well fitted to discuss it." You teach that the ministers' course of study does not include "the smallest trace" of "special preparation for the discussion of such a theme;" that our "mental constitution" "is not apt to be of a kind well fitted for scientific investigation;" that we have a disposition "to jump over gaps in proof;" that our training "is almost wholly devoted to the sayings and opinions of other men;" that "theology, properly so called, is a collection of opinions;" that "theologians" have mainly been accepting "scientific hypotheses over which they at first laughed or were angry;" that the preachers "doubtless made merry" over the proposition "that the earth was not the center of the solar system, but only a satellite of the sun;" that it would be "best for religion and morals to give up a struggle" (*sic*), etc.

I will not call all this talk malignant; but I can not, on the other hand, say that it is impartial or high toned; even though, from the lack of the customary flattery, my letter may be excluded from your pages. Much may be said in reply to you, but I will say but little. Upon the general animus of your article, every reader not in the same misery with you, will form his own opinion. But it does certainly seem as though what you say of ministers could not be true, if the following, which you also say of them is true:

"Educated and influential men, from, perhaps, the most influential body of educated men in the country."

But to the direct answer:

"*Modesty.*" "Three-fourths of all that has been recently said * * * has been said by ministers."

This is not caused by immodesty, but by their interest in, and acquaint-

ance with, the leading questions of the the day. If you, sir, can use your columns to advocate a theory of scientific imagination, and yet consider it immodest for a minister to speak upon the subject in the way in his power, there surely can be but one reason for your greater license; that is, your greater wisdom. These "influential and educated men" are certainly to be pitied, because they did not think of consulting an editor or printer before speaking upon the subject of evolution. The thorough scientific training of the journalist, making him an expert in all questions between religion and science, would have led him to inform these "educated and influential men" that "there is no educated calling whose members are not, on the whole, better equipped for fighting in scientific fields;" provided, that the modesty of the journalist would allow him to speak. You may object to this, and call it *argumentum ad hominem;* you may call it *argumentum ad diabolum,* if you like; for the lowest member of the printing fraternity is almost as well qualified to decide upon a minister's duty to the age as an average reporter or editor, whose sense of honor and propriety has been developed by the "interview," and whose delicacy has been cultivated by the insertion of dashes or stars in the place of well-known words in printed gossip and scandal.

The minister's "training." You deny "the smallest trace" "of preparation for the discussion of such a theme." But on what ground? You "turned over the catalogues of all the principal divinity schools," etc. Is this a scientific way of finding out a man's scientific attainments—to turn over the catalogue of his divinity school? Surely not; for there is a fashion that prevails among ministers (or should) of going to college. No minister is considered educated who has not such a training before he attends a divinity school. But you could not find out whether he were trained properly even by turning over the catalogue of his college, nor by opening it, and reading in it. You could only infer the youthful training in the minister's case, and that is all you could do in the scientists' case. The one begins as does the other, so far as training is concerned.

The mental constitution. "Not apt to be of a kind well fitted for scientific investigation." We are too reverent, you think; a kind of soft-hearted, docile race, "predisposed to accept things on authority." Yes, we do acknowledge *authority.* But we are very critical as to whom we acknowledge as authorities. We also limit the field of our kings. We are not in the habit of making Moses, Isaiah, and Paul authorities in science; and we rebel against Huxley and his class as kings in religion. And here is the trouble. Huxley came to our shores and began to teach religion. We thought he did not understand the subject, and "we spoke out in meeting." Not sufficiently reverent, you see, after all, to suit this Ishmaelite.

But your position, hostile to reverence, seems to me unsound. Investigation that is irreverent loses half its inspiration. It lacks breadth, and is forever looking into the large end of the telescope. The telescope may be scientific, but it is improperly used. In order to successful scientific investigation, there is necessary a love of truth so deep that it almost approaches piety. The true student should be willing to learn, even of another; though some one may sneer, and call that other one an "authority." The scientific spirit does not consist in saying *no* to every thing, but we should be willing to sit at the feet of a master.

Ministers, as a body, reserve their opinion on the subject of evolution. We are waiting for argument. We do not wish to jump over certain "gaps in proof." But if certain members of our class do now reject the hypothesis, they are no more hasty than was Tycho Brahe, the scientific man, with regard to the Copernican theory, who reasoned that "the Copernican theory must be erroneous." Brahe was not a minister; at least I never heard that he was.

"Making merry" over Copernican theory. This has done service for infidels beyond its strength, and, as an argument against religion, has been overrated. Turn away from poor Galiles, educated in the bosom of the church that persecuted him, and according to her methods. You talk about ministers making "merry" over the proposition "that the earth was not the center of the solar system, but only a satellite of the sun." Why, sir, the author of that theory was a minister. Copernicus was the discoverer, canon of Frauenburg. Tycho Brahe, who opposed it, was not a minister. Scientific men gave us the Ptolemaic theory, the cycles, epicycles, centrics, eccentrics. It was a minister who gave us the solar system. Scientific men are to be honored, but not by saying to ministers that they can not become scientific men.

Ministers of the gospel are not ashamed of their scientific record, with Copernicus in astronomy, Priestley in chemistry—but enough!

I would like to speak upon several other points, but too much space has been consumed.

It is gratifying to know that if ever "science" should be in danger (that is, the science that consists in framing a hypothesis and then proving it by sneering at the Bible), there is at least one journalist of thorough scientific training, of candid disposition, and of ponderous intellect, who will come to the rescue of our "chromo civilization," and save our refinement from the destructive blows of the clerical barbarians and savages, who, by their ignorance, lack of culture, and flippancy in the pulpit, are endangering our morals, our sciences, and, indeed, almost every thing that has been gained in the last eighteen hundred years.

Thank *The Nation*, our culture is safe.

Respectfully,

J. J. SUMMERBELL.

Spring, Pa., Nov. 1, 1876.

A most interesting observation, referring to the powers of germination in seed, which is hundreds and even thousands of years old, is said to have been made by Prof. Hendreich, in Greece. In the silver mines of Laurinum, only the slags left by the ancient Greeks are at present worked off, in order to gain, by an improved modern method, silver still left in the dross. This refuse ore is probably two thousand years old. Among it the seed of a species of glaucium or a poppy was found, which had slept in the darkness of the earth during all that time. After a little time, when the slags were brought up and worked off at the melting ovens, there suddenly arose a crop of glaucium plants with a beautiful yellow flower, of a kind unknown in modern botany, but which is described by Pliny and others as a frequent flower of ancient Greece.—*London Examiner.*

The following bodies of water are about the same size: German Ocean, Black Sea, Yellow Sea; Hudson Bay is rather larger. The Baltic, Adriatic, Persian Gulf, and Ægean Sea half as large, and somewhat larger than Lake Superior.

HYMN—LOVING THE LORD.

BY MRS. MARY E. FISH.

Respectfully dedicated to the Editor and Associate Editors of "OUR WORK," and to the Faculty of Union Christian College.

1 Sow, Christians, sow, while your strength shall last;
Heed not the heat, or the winter's blast;
Sow, Christians, sow, weary not of toil,
Sow precious seed in the mellow soil;
For soon will the reapers come!
Oh! soon will the reapers come!

CHORUS—Sown in your gladness, or sown 'mid your tears:
Sown in your sadness, or sown 'mid your fears;
Sown with no hope that the harvest would come;
Joyful surprise! when the bright sheaves come home.

2 Sow the good seed by the light of day;
Sow the good seed 'neath the moon's soft rays;
Sow it in poverty, wealth, or pain,
Surely 'twill bring you bright, golden grain;
For soon will the reapers come!
Oh! soon will the reapers come!

CHORUS—Sown in your gladness, etc.

3 Sow not on rocks that are low or high;
Barren they'll prove, and the seed will die;
Sow not 'mid thorns, for the thorns will spoil;
Sow the good seed in the mellow soil;
For soon will the reapers come!
Oh! soon will the reapers come!

CHORUS—Sown in your gladness, or sown 'mid your tears;
Sown in your sadness, or sown 'mid your fears;
Sown in your pity, or sown in your love;
Great will the harvest be, gathered above.

4 Sow it, if need be, with weary brain;
Sow it, if need be, with torturing pain!
Sow the good seed till the locks grow thin!
Sow the good seed till the eyes grow dim!
For soon will the reapers come,
To gather the harvest home!

CHORUS—Sown in your gladness, etc.

THE SEIGE OF MAGDEBURG.

(From the German of Gustavus Neritz.)

BY E. A. DEVORE, A. B.

"Our Father Who Art in Heaven."

On a foggy morning in March, 1631, a procession of boys, called a chorus, sang in the streets of Magdeburg.

With fresh, clear voices, they praised the triune God in religious melodies and sacred songs. Many a window in the high houses was opened; and, still wearing their tight-fitting night-caps, there appeared here the pleasant countenance of a matron, and there the blooming face of a maiden, who devoutly listened to the praise of the Lord from youthful lips.

Not only did the windows in the houses open, but also the hearts and hands, to bestow small and great gifts upon the singers, who, to judge from their scanty clothing, might be related to the poorest inhabitants of Magdeburg.

One of the boys was provided with a large linen sack, at the close of the songs to receive, in the different dwellings, here a silver, and there a copper coin, an egg, a piece of bread, a bundle of poppy-heads, a candle, a sulphur-string, or other trifles, which were divided afterward. In this same manner Martin Luther, when a boy, was compelled to sing for his livelihood.

When the deep-toned cathedral clock struck eight, the little singers immediately closed their lips and their text song-books. The procession broke ranks and wandered to th e neighboring school, to which blooming youth hastened from all parts of the town. But one of the chorus, clad in a poor little gray coat, was unable to go as fast as the others. Although his right hand rested upon a brown staff, his knees bent together very much.

The sweat dripped down his slim cheeks from his exertions, still he was outrun by the others. Then a comrade, named Lippert, pitied the lame one, took his song-book and school-books under his arm, and arm-in-arm they sought the school-room.

There, while wiping the clear drops from his forehead with his little handkerchief, the lame boy gave a thankful look and a pressure of the hand to his obliging neighbor, who had showed to him in what a Christian's duty consists.

Then some hundred rosy lips opened in reverential song, and gave to the Highest their thanks for the protection received in the past night, and for all his faithfulness and mercy. The teacher finished the singing, and his own and his pupils' supplications, in a devout prayer, and the instruction began.

The first subject was concerning the righteous God and his word, which the children learned from a little book, written a hundred years before by Martin Luther for the "simple curates," but which was found neither too sublime nor too difficult for school-children. This good result was produced entirely by the Reformation.

That day the teacher had "The Lord's Prayer" for the subject of his forcible instruction. To it he added right urgent exhortations, because it was then a bad time in Christendom, and there was need of prayer.

Afterward, when the lame Sigismund Kuhnert stepped out to calculate upon the large blackboard, his teacher, Mr. Zumpe, kindly spoke to him: "Will your knee never heal?"

Sigismund sadly shook his head and answered: "My father says he now knows of no medicine that could be used."

"Poor little boy," pityingly said

the teacher. "But hold! It occurs to me that our gracious Lord, Archbishop, and Administrator, Christian William, suffered long with a dangerously diseased knee.

As for you, even so for him would no medicine operate, till at last he was restored by a wonderful salve, for which he wrote to a great distance. To regain one's health, a person must leave no medicine untried. Therefore, go to His Illustrious Grace, and beg him for the salve in question."

Sigismund was terrified visibly.

"Now, will you not follow my advice?" said the teacher.

"I am so very much afraid," answered Sigismund, trembling. "The archbishop has so many watchmen; and in the end I surely would come to punishment, if I should beg him for any thing."

"But see here," continued the teacher, "have you already prayed to the loving God for your restoration?"

"Oh, very many times," replied the lame boy, fervently.

"That is still strange," spoke the teacher. "You dare to carry your petitions before the Lord of all lords, the King of all kings; but not to the archbishop, who is only a servant of God, and a human being like yourself. You are afraid of the watchmen of the archbishop; but not of the legion of angels, seraphim and cherubim, who surround the throne of the Highest. I will tell you whence that comes.

"The Lord of heaven will be, and also is, your Father. Therefore we do not address him, 'Almighty and August Sovereign and Lord,' but '*Father*,' as his Son has taught us in his prayer. By that means God desires to persuade us to believe that he is our true Father, and we his true children; and that we cheerfully should pray to him with all confidence, as loving children to a kind father. But the gracious archbishop is our father, also—namely, our earthly father, who should love his subjects as his children. Therefore, take heart, and beseech him himself for his help. But wait till eleven o'clock, because it is easiest to speak to him then. To the heavenly Father we dare to pray at every hour of the day, as well as of the night, more than once—yes, innumerable times! But with the powerful of earth, one must prudently seek the night time. Go, my son, and obey me; but tell me the answer which you shall receive."

In great heart's anguish Sigismund limped away. He would not be disobedient to his teacher, and quite willingly would he have his restoration; but—the mighty archbishop, and his watchmen, servants, officers, guards! The nearer he came to the archbishop's palace, the shorter were his steps. He willingly would have sent his father for him, but his teacher had forbidden that.

"The heavenly Father," he said, "does not desire that we should pray to him through the intercession of a saint, but that we ourselves should come to him. Even so will our Protestant lord archbishop prefer that you yourself should turn to him."

He glanced timidly at the soldiers who guarded the entrance to the palace. But these paid no attention to the little form, but seemed to speak with one another of weightier things. In the palace itself there was a strange and unusual uproar. Messengers ran to and fro, servants ran up and down stairs, and among them princely senators slipped around like slimy eels, and high officers strutted around with clinking spurs.

Unnoticed and unhindered, Sigismund entered the palace, its stair-

cases, halls, and rooms. No one stopped him; no one asked his business; all must have had their heads full. A hundred times he heard the name "Tilla" spoken. He saw himself carried along with a stream of very different people, which finally poured into a great, high room. Here was a dense crowd, and such a bustle that one could scarcely distinguish his own voice.

Now, Sigismund once had seen the face of his ruler, and his image was impressed upon his memory. But here, out of the crowd, he was unable to pick out the desired face; nor could he penetrate the thick mass which filled the middle of the room. It did not seem advisable, but much rather dangerous, to ask a question.

He waited a long time in this inaction, till the pain in his sore knee made him wish for retirement. Then, finally, with trembling hands, he lifted the handle of the lock of a side door, and slipped into the adjacent room.

He did this as quietly as possible, and closed the door in the same manner. Here he saw, in the far part of the wide, expensively-furnished room, a finely-dressed lady, who, in apparent anguish, walked up and down the floor; now wrung her hands, directed her weeping eyes toward heaven, and now leaned her head upon the window-sash and looked out.

This scene was not adapted to encourage the little petitioner, who also remained here unnoticed, and wanted to go away at once, when the prince-like lord archbishop himself stepped out of the tumult-filled room into the private one of his consort.

He could be about forty years old, did not possess the most inviting appearance, and now seemed entirely wearied out.

"Dear Cunigunda," began he hastily, "compose yourself, and, with all the might of your soul, dispel this faint-heartedness, which only can work injury upon our companions. Still, nothing is lost. The city is well fortified; is garrisoned with eighteen hundred Swedes; and, with the help of the warlike-disposed citizenship, I hope to hold the city until King Gustavus Adolphus, to whom I have sent several couriers, shall come to the rescue."

Taking advantage of the little pause which followed these words, Sigismund began, with trembling tones: "All-powerful and most princely lord archbishop—." He faltered, while the gentleman and his wife looked at him in great astonishment. Forcibly rousing himself, he quickly continued: "Stranger, Father of our Country, I wish, in God's name, to beg of you for a little box of salve for my lame knee." He then held up his crooked leg.

An unchristian flush came to the Christian bishop, while he answered passionately:

"Why does the beggarly rascal venture here? How did the little rogue enter?"

"That is inconceivable to me," spoke the princess, "since I just now see him for the first."

Quite pale with fright, Sigismund clasped his hands and dropped his little cane, and, out of breath, almost implored:

"Ah! strange sir! help me, as the Lord once cured your lameness through a wonderful salve."

Christian William laughed bitterly, and answered:

"I wish I knew a salve with which I could make General Tilla and all his host have such lame legs as yours. I am no quack. I do not know how to heal your lameness; besides, I now have many other things to think about. The rascal seems to think I am St. Peter, and need only to speak

to the lame, "Stand up and walk!'"

Then he rang for a servant, whom he ordered to take the boy out of the palace immediately. The servant took him up, and the cane he had dropped, and carried him, without putting him down a single time, through all the rooms of the wide castle into the street, where he struck him over the back with the cane, and left him to limp away.

One can easily imagine the condition of the poor fellow, when he arrived at his teacher's. When, with tears in his eyes, he had related the result of his petition, his teacher spoke comfortingly:

"My dear son, compose yourself. The archbishop could not or would not help you. It is often so with men, but not with God, whom the Savior has not in vain called 'the Father in heaven.' Then, again, it is written: 'Our God is in heaven; he can do what he desires.' Therefore should the expression, '*in heaven*,' remind us of the power and goodness of the heavenly Father, and should cause us to pray hopefully. But if the lord archbishop had thought that this God, our Father, desires to be also the Father of all men, he would not have wished that General Tilla and his whole army should get lame legs. This wish is entirely at variance with the love of mankind, to which the little word '*our*' in the prayer should obligate us."

With this, the teacher dismissed his scholar, who very sorrowfully repaired to his home.

[TO BE CONTINUED.]

The Gulf of Mexico is about ten times the size of Lake Superior, and about as large as the Sea of Kamaschata, Bay of Bengal, China Sea, Okhotsk or Japan Sea. Lake Ontario would go in each of them more than fifty times.

THE IDEA OF THE COLLEGE.

BY PRESIDENT T. C. SMITH.

Every word should be a clearly defined idea, a mental picture, apprehended at once, and without confusion. The scholar who studies words; who measures their depth, breadth, and weight; who knows their fundamentals and their application, will find his thoughts clear up and acquire solidity, as the ideas of which these thoughts are composed are brought to a just counterpoise, and smoothed out by careful expression. Hence, we have used, as the caption of our article, "The *Idea* of the College." We want to develop that idea—to give it such a form, face, and spirit, as shall distinguish it from every other word with which it may be compared.

To understand a word, one must first know its biography; hence, we begin with a brief historical sketch.

The word *collegium* means association. *Collegæ*, or colleagues, are associates. Here we find the basic idea. *Collegia* are of very ancient origin. Imperial Rome was filled with them; so much so that some of the emperors issued edicts forbidding their existence, inasmuch as they served chiefly as hot-beds of treason. We now have the generic idea. That special meaning which the word bears to-day, is the result of a long life and an eventful history.

The dark ages crept slowly, but surely, over Europe, until their murky curtains hung over the western limits of the continent. The darkness might be felt. Kings, princes, priests, and people, all were enveloped in it. Rulers were seldom able to read their own laws, or to write their own names. It was difficult to find a priest who could read his breviary, or a monk who could repeat his psalter. The church ceased to educate the people, the peo-

ple to educate themselves. Superstition banished pure and spiritual religion, and became so deeply inwrought into the thoughts and life of the people, that it lives to-day in signs, tokens, dreams, etc. This universal fettering of the mind gave opportunity to the Church of Rome to bind to her support so many millions of human beings. The reaction came. Mind asserted its supremacy. Even in the time of Charlemagne, a manly, vigorous attempt was made to rescue mankind from this degrading ignorance. Alcuin, an Englishman, who had been teacher of a flourishing school at York, found his way to the court of the king. Here, at Aix-la-Chapelle, he began a school, with royalty itself for his pupil; for Charlemagne was a most diligent student, even amid the cares of his great state. Afterward, Erigena, an Irish or Scotch pedagogue, at the court of Charles the Bald, by his vigorous intellectual efforts, delayed, but could not prevent the final fall. Gerbert, afterward raised to the papal throne as Pope Sylvester II., educated in the Saracenic University of Cordova, was an illustrious schoolmaster. As pope, he had emperors, kings, and men of royal rank for his pupils, and awakened a taste for letters such as had not been felt since the death of Charlemagne. These are illustrious examples of the schoolmasters of the middle ages, whose heroic martyrdom in attempting to check and to turn back the barbarism of ignorance has never yet found its proper place in history.

The instruction afforded in these schools was almost exclusively by lectures and discussions; necessarily so because few books were to be had, and one instructor would sometimes have hundreds of pupils.

One example is noteworthy: Abelard, banished from Paris, was sought out and surrounded by his admiring pupils in the forests on the banks of the Ardusson. In the fifteenth century the University of Paris had twenty-five thousand pupils assembled in its lecture-rooms; Oxford, England, thirty thousand. "Quarrels, stabbing, and murders prevailed among the students," and they threatened the peace of the cities. The colleges themselves disagreed, and waged war upon one another, sometimes causing the shedding of blood in their strifes.

There are eminent examples of colleges, schools of predictions, of which there were many in the capital cities and metropolises of Europe. Asia and Africa had their schools—their colleges and universities; but, almost without exception, these have lost their prominence, their glory being dimmed by that of the hardier, analytic schools of Europe.

The men educated under this system (women were not admitted) carried their knowledge to the most remote and obscure villages, and education of the masses became possible thereby.

From this brief history we learn the following facts:

1. That colleges, and universities even, preceded schools of elementary knowledge in order of time as well as of importance.

2. That the college of to-day has been the outgrowth of a system of education by lectures.

3. That order and science have been deduced from chaotic speculation.

The name *college* came into general use in a peculiar way. To accommodate the vast numbers that attended, boarding-houses and hotels, called *colleges*, were erected, whereby some oversight of the students could be had. Afterward the word shifted back to its etymological meaning, and came to mean a division or department of a university—as the

college of mathematics, the college of grammar, etc.

"Each college became a distinct faculty, having lectures and disputations in a single department, and the university was a collection of colleges, each of which gave instruction exclusively in one branch of learning." Oxford University, England, has nineteen colleges; Cambridge, seventeen. These departments are to-day called "Chairs," and the college embraces as many of them as go together by natural association, or as its founders may select. To explain further:

Branches of knowledge have a certain definable order, a precedence at once clear and natural. Moreover, they proceed in "courses." A scientific course includes those branches of which mathematics and natural science constitute a most important part. To these are joined history, science of mind and of morals, logic, political economy, and frequently modern languages, especially German and French. A classical course adds to these the study of languages now unspoken, but which have been the languages of peoples, who, in their day, stood pre-eminent in civilization. Polytechnic schools, those in which useful arts and trades are taught, having immediate utility for their prime object, are of very recent origin.

As the courses of study are quite extensive, and the number of pupils sometimes very large, the work of instruction is divided out among the several teachers, assigning to each a particular branch, or part of a branch. Each instructor, as a mark of special honor, is called "Professor"—a word that has been sadly profaned in this age of brass—and his position a chair, a very useful appendage of a professor's room.

Beginning with the course of study, we find the different departments, commencing at the first principles, are carried on and up, until they have been pretty thoroughly compassed. Moreover, each branch is so related and arranged with reference to all other branches, that they advance together symmetrically, and each helps to supplement the rest. This amicable association is maintained throughout, and, hand joined in hand, they co-operate to their mutual profit.

The college has its definite and proper place among educational institutions. The common schools, wherein are taught the simple elementary facts of science, form the broad and solid foundation of our American educational structure. Based upon these, and drawing their life directly from them, are high schools and academies. Above these, and carrying on their beginnings of development, stimulating search for the more recondite truths, giving larger opportunity for original investigation, affording superior advantages for the acquisition of facts, and dealing specially with their philosophy, are the colleges of the land. An aggregation of colleges, all laboring under one plan, and having a common head, form a university.

A college carries the idea of completeness in its peculiar work. It proffers advantages and affords instruction, such as secure mental discipline, mature judgment, and thorough scholarship. Hence, they are accustomed to grant certificates of graduation to such as complete, satisfactorily, their course of study, and to confer titles of distinction on such as achieve prominence in the kingdom of letters.

To enumerate and explain the many kinds of degrees conferred, the privileges which these honors secure, the uses and abuses of this power, and the way in which colleges are founded and conducted,

would protract our article, now already too long, to a tiresome length. These may form the subject-matter of some future paper.

THE TACHYPOMP.

A MATHEMATICAL DEMONSTRATION.

(CONCLUDED.)

"I give them a chance. When they come up the first time I wait at the mouth of the shaft with a rope in hand. If they are reasonable, and will come to terms, I fling them the line. If they perish, 'tis their own fault. Only," he added, with a melancholy smile, "the center is getting so plugged up with creditors that I am afraid there soon will be no choice whatever for 'em."

By this time I had conceived a high opinion of my tutor's ability. If anybody could send me waltzing through space at an infinite speed, Rivarol could do it. I filled my pipe and told him the story. He heard with grave and patient attention. Then, for full half an hour, he whiffed away in silence. Finally he spoke:

"The ancient cipher has overreached himself. He has given you a choice of two problems, both of which he deems insoluble. Neither of them is insoluble. The only gleam of intelligence old Cotangent showed was when he said that squaring the circle was too easy. He was right. It would have given you your *Liebchen* in five minutes. I squared the circle before I discarded pantalets. I will show you the work—but it would be a digression, and you are in no mood for digressions. Our first chance, therefore, lies in perpetual motion. Now, my good friend, I will tell you frankly that, although I have compassed this interesting problem, I do not choose to use it in your behalf. I, too, Herr Tom, have a heart. The loveliest of her sex frowns upon me. Her somewhat mature charms are not for Jean Marie Rivarol. She has cruelly said that her years demand of me filial rather than connubial regard. Is love a matter of years or of eternity? This question did I put to the cold, yet lovely, Jocasta."

"Jocasta Surd!" I remarked, in surprise. "Abscissa's aunt!"

"The same," he said, sadly. "I will not attempt to conceal that upon the maiden Jocasta my maiden heart has been bestowed. Give me your hand, my nephew in affliction as in affection!"

Rivarol dashed away a not discreditable tear, and resumed:

"My only hope lies in this discovery of perpetual motion. It will give me the fame, the wealth. Can Jocasta refuse these? If she can, there is only the trap-door and—— Kerguellen's Land!"

I bashfully asked to see the perpetual-motion machine. My uncle in affliction shook his head.

"At another time," he said "Suffice it at present to say, that it is something upon the principle of a woman's tongue. But you see now why we must turn, in your case, to the alternative condition—infinite speed. There are several ways in which this may be accomplished, theoretically. By the lever, for instance. Imagine a lever with a very long and a very short arm. Apply power to the shorter arm which will move it with great velocity. The end of the long arm will move much faster. Now, keep shortening the short arm and lengthening the long one, and as you approach infinity in their difference of length, you approach infinity in the speed of the long arm. It would be difficult to demonstrate this practically to the professor. We must seek another solution. Jean Marie will meditate. Come to me in a fortnight. Good

night. But stop! Have you the money—*das Gelt?*"

"Much more than I need."

"Good! Let us strike hands. Gold and knowledge; science and love. What may not such a partnership achieve? We go to conquer thee, Abscissa. *Vorwarts!*"

When, at the end of a fortnight, I sought Rivarol's chamber, I passed, with some little trepidation, over the terminus of the Air line to Kerguellen's Land, and evaded the extended arms of the Petty Cash Adjuster. Rivarol drew a mug of ale for me, and filled himself a retort of his own peculiar beverage.

"Come," he said at length. "Let us drink success to the TACHYPOMP."

"The TACHYPOMP!"

"Yes. Why not? *Tachu*, quickly, and *pempo*, *pepompa*, to send. May it send you quickly to your wedding-day. Abscissa is yours. It is done. When shall we start for the prairies?"

"Where is it?" I asked, looking in vain around the room for any contrivance which might seem calculated to advance matrimonial prospects.

"It is here," and he gave his forehead a significant tap. Then he held forth didactically:

"There is force enough in existence to yield us a speed of sixty miles a minute, or even more. All we need is the knowledge how to combine and apply it. The wise man will not attempt to make some great force yield some great speed. He will keep adding the little force to the little force, making each little force yield its little speed, until an aggregate of little forces shall be a great force, yielding an aggregate of little speeds, a great speed. The difficulty is not in aggregating the forces; it lies in the corresponding aggregation of the speeds. One musket-ball will go—say a mile. It is not hard to increase the force of muskets to a thousand, yet the thousand musket-balls will go no further and no faster than the one. You see, then, where our trouble lies. We can not readily add speed to speed, as we add force to force. My discovery is simply the utilization of a principle which extorts an increment of speed from each increment of power. But this is the metaphysics of physics. Let us be practical or nothing.

"When you have walked forward on a moving train, from the rear car toward the engine, did you ever think what you were really doing?"

"Why, yes; I have generally been going to the smoking-car, to have a cigar."

"Tut, tut—not that! I mean, did it ever occur to you, on such an occasion, that absolutely you were moving faster than the train? The train passes the telegraph-poles at the rate of thirty miles an hour, say. You walk toward the smoking-car at the rate of four miles an hour. Then *you* pass the telegraph-poles at the rate of thirty-four miles. Your absolute speed is the speed of the engine plus the speed of your own locomotion. Do you follow me?"

I began to get an inkling of his meaning, and told him so.

"Very well. Let us advance a step. Your addition to the speed of the engine is trivial, and the space in which you can exercise it, limited. Now suppose two stations, A and B, two miles distant by the track. Imagine a train of platform-cars, the last car resting at station A. The train is a mile long, say. The engine is, therefore, within a mile of station B. Say the train can move a mile in ten minutes. The last car, having two miles to go, would reach B in twenty minutes, but the engine, a mile ahead, would get there in ten. You jump on the last car, at A, in a prodigious hurry to reach Abscissa, who is at B. If you stay on the last

car, it will be twenty long minutes before you see her. But the engine reaches B and the fair lady in ten. You will be a stupid reasoner, and an indifferent lover, if you do not put for the engine over those platform-cars, as fast as your legs will carry you. You can run a mile, the length of the train, in ten minutes. Therefore, you reach Abscissa when the engine does, or in ten minutes—ten minutes sooner than if you had lazily sat down upon the rear car, and talked politics with the brakeman. You have diminished the time by one-half. You have added your speed to that of the locomotive to some purpose. *Nicht wahr?*"

I saw it perfectly; much plainer, perhaps, for his putting in the clause about Abscissa.

He continued:

"This illustration, though a slow one, leads up to a principle which may be carried to any extent. Our first anxiety will be to spare your legs and wind. Let us suppose that the two miles of track are perfectly straight, and make our train one platform-car, a mile long, with parallel rails laid upon its top. Put a little dummy engine on these rails, and let it run to and fro along the platform-car, while the platform-car is pulled along the ground track. Catch the idea? The dummy takes your place. But it can run its mile much faster. Fancy that our locomotive is strong enough to pull the platform-car over the two miles in two minutes. The dummy can attain the same speed. When the engine reaches B in one minute, the dummy, having gone a mile a-top the platform-car, reaches B also. We have so combined the speeds of those two engines as to accomplish two miles in one minute. Is this all we can do? Prepare to exercise your imagination."

I lit my pipe.

"Still two miles of straight track between A and B. On the track a long platform-car, reaching from A to within a quarter of a mile of B. We will now discard ordinary locomotives, and adopt as our motive power a series of compact magnetic engines, distributed underneath the platform-car, all along its length."

"I do not understand those magnetic engines."

"Well, each of them consists of a great iron horseshoe, rendered alternately a magnet and not a magnet by an intermittent current of electricity from a battery, this current, in its turn, regulated by clockwork. When the horseshoe is in the circuit, it is a magnet, and it pulls its clapper toward it with enormous power. When it is out of the circuit, the next second, it is not a magnet, and it lets the clapper go. The clapper, oscillating to and fro, imparts a rotatory motion to a fly-wheel, which transmits it to the drivers on the rails. Such are our motors. They are no novelty, for trial has proved them practicable.

"With a magnetic engine for every truck of wheels, we can reasonably expect to move our immense car, and to drive it along at a speed—say of a mile a minute.

"The forward end, having but a quarter of a mile to go, will reach B in fifteen seconds. We will call this platform-car No. 1. On top of No. 1 are laid rails, on which another platform-car, No. 2, a quarter of a mile shorter than No. 1, is moved in precisely the same way. No. 2, in its turn, is surmounted by No. 3 moving independently of the tiers beneath, and a quarter of a mile shorter than No. 2. No. 2 is a mile and a half long; No. 3 a mile and a quarter. Above, on successive levels are No. 4, a mile long; No. 5, three-quarters of a mile; No. 6, half a mile; No. 7, a quarter of a mile, and

No. 8, a short passenger-car on top of all.

"Each car moves upon the car beneath it, independently of all the others, at the rate of a mile a minute. Each car has its own magnetic engines. Well, the train being drawn up with the latter end of each car resting against a lofty bumping-post at A, Tom Furnace, the gentlemanly conductor, and Jean Marie Rivarol, engineer, mount, by long ladder, to the exalted No. 8. The complicated mechanism is set in motion. What happens?

"No. 8 runs a quarter of a mile in fifteen seconds, and reaches the end of No. 7. Meanwhile No. 7 has run a quarter of a mile in the same time, and reached the end of No. 6; No. 6, a quarter of a mile in fifteen seconds, and reached the end of No. 5; No. 5, the end of No. 4; No. 4, of No. 3; No. 3, of No. 2; No. 2, of No. 1. And No. 1, in fifteen seconds, has gone its quarter of a mile along the ground track, and has reached station B. All this has been done in fifteen seconds. Wherefore, Nos. 1, 2, 3, 4, 5, 6, 7, and 8, come to rest against the bumping-post at B at precisely the same second. We, in No 8, reach B just when No. 1 reaches it. In other words, we accomplish two miles in fifteen seconds. Each of the eight cars, moving at the rate of a mile a minute, has contributed a quarter of a mile to our journey, and has done its work in fifteen seconds. All the eight did their work at once, during the same fifteen seconds. Consequently we have been whizzed through the air at the somewhat startling speed of seven and a half seconds to the mile. This is the Tachypomp. Does it justify the name?"

Although a little bewildered by the complexity of cars, I apprehended the general principle of the machine. I made a diagram, and understood it much better. "You have merely improved on the idea of my moving faster than the train when I was going to the smoking-car?"

"Precisely. So far we have kept within the bounds of the practicable. To satisfy the professor, you can theorize in something after this fashion: If we double the number of cars, thus decreasing by one-half the distance which each has to go, we shall attain twice the speed. Each of the sixteen cars will have but one-eighth of a mile to go. At the uniform rate we have adopted, the two miles can be done in seven and a half, instead of fifteen seconds. With thirty-two cars, and a sixteenth of a mile, or twenty rods difference in their length, we arrive at the speed of a mile in less than two seconds; with sixty-four cars, each traveling but ten rods, a mile under the second. More than sixty miles a minute! If this is not rapid enough for the professor, tell him to go on increasing the number of his cars and diminishing the distance each one has to run. If sixty-four cars yield a speed of a mile inside the second, let him fancy a Tachypomp of six hundred and forty cars, and amuse himself calculating the rate of car No. 640. Just whisper to him that when he has an infinite number of cars, with an infinitesimal difference in their lengths, he will have obtained that infinite speed for which he seems to yearn. Then demand Abscissa."

I wrung my friend's hand in silent and grateful admiration. I could say nothing.

"You have listened to the man of theory," he said proudly. "You shall now behold the practical engineer. We will go to the west of the Mississippi, and find some suitably level locality. We will erect thereon a model Tachypomp. We

will summon thereunto the professor, his daughter, and why not his fair sister Jocasta, as well? We will take them a journey which shall much astonish the venerable Surd. He shall place Abscissa's digits in yours, and bless you both with an algebraic formula. Jocasta shall contemplate with wonder the genius of Rivarol. But we have much to do. We must ship to St. Joseph the vast amount of material to be employed in the construction of the Tachypomp. We must engage a small army of workmen to effect that construction, for we are to annihilate time and space. Perhaps you had better see your bankers."

I rushed impetuously to the door. There should be no delay.

"Stop! stop! *Um Gottes Willen*, stop!" shrieked Rivarol. "I launched my butcher this morning, and I have not bolted the——"

But it was too late. I was upon the trap. It swung open with a crash, and I was plunged down, down, down! I felt as if I were falling through illimitable space. I remember wondering, as I rushed through the darkness, whether I should reach Kerguellen's Land, or stop at the center. It seemed an eternity. Then my course was suddenly and painfully arrested.

I opened my eyes. Around me were the walls of Professor Surd's study. Under me was a hard, unyielding plane, which I knew too well was Professor Surd's study floor. Behind me was the black, slippery, hair-cloth chair, which had belched me forth much as the whale served Jonah. In front of me stood Professor Surd himself, looking down with a not unpleasant smile.

"Good evening, Mr. Furnace. Let me help you up. You look tired, sir. No wonder you fell asleep, when I kept you so long waiting. Shall I get you a glass of wine? No? By the way, since receiving your letter, I find that you are a son of my old friend, Judge Furnace. I have made inquiries, and see no reason why you should not make Abscissa a good husband."

Still I can see no reason why the Tachypomp should not have succeeded. Can you?

IT'S BOOKS.

BY W. H. VENABLE.

A phrase familiar to my ears in boyhood was that which stands as caption of the present writing, "It's books." Whether the expression be narrowly provincial or not, whether or not it has passed out of use in the rural districts, I do not know. We juveniles in the quiet precincts of old Ridgeville (a village fondly remembered as the scene of my first school-going) meant by saying "It's books," that the hours of study and recitation had begun, that play was over, that, to use another terse idiom, school had "took up." I remember pedagogues who used to call us in by rapping sharply with a ferule on the window-sash, and others who sent messengers to the play-ground to tell us *it was books*. Then came the advent of teachers' hand-bells.

On the morning of the first opening of the city schools in autumn, the streets present a lively and suggestive picture. The school board's official announcement that it will be books on a stated Monday, produces a flutter of preparation among the school-goers, and no little stir and anxiety among the school-senders. The various employments of vacation are cut short. The children's wardrobes are overhauled, repaired, and replenished; Tommy's out-grown suit is perhaps fitted to his younger brother; Lizzie is supplied with a new dress, and has her last fall's hat

done over in the style of the season. The anticipated day arrives. Then betimes the boys and girls issue from their places of abode, and flock together laden with baskets, satchels, slates, and books. The sidewalks are musical with the patter of elastic feet. In the bustle and excitement of the occasion, most are full of hope and vivacity. Here and there a reluctant urchin, opposed from personal inclinations to the school system, "creeps unwillingly" and with "heavy looks" toward the unwelcome goal which he considers a goal. Here and there, also, may be seen a timid, shrinking child, to whom the rush and flurry of the noisy procession is like the rude bluster of March winds to the tender and tremulous violet. At the door stands the mother, her eyes following with infinite solicitude the darling who this day, for the first time, ventures from the all-protecting inclosure of home to enter upon untried scenes. Full of pathos to the parent's heart is this first day of school—the mother must needs cry a little in the lonely nursery when her little pet is out of sight. Ah, innocent, ignorant child, rejoicing in her embroidered cloak, proud of her pictured primer, how little can she anticipate the realities of the long road that lies before her. Perhaps she may find an appalling difference within an hour between home and school, between mother whose love-kiss yet lingers on her lips, and Miss Blimber who sets her to learn the twos in the multiplication-table. Even father, undemonstrative as he usually is, betrays some interest in the children's movements on opening day, and he can not help sighing once or twice during the day, over his ledgers, as he recalls to mind the air of his five-year old namesake, who, after breakfast, set off so sturdily toward the hill of science, his pocket plethoric with tops and strings, his jacket and pants buttoned together around his waist.

Miss Blimber—Professor Feeder—think of mother and father this day, and fancy yourselves in their place. Then can you partially estimate love's sacrifice, and faintly realize the boundless trust that is reposed in your hands. Do not harbor the thought that parents are not interested in the progress of their little ones. Do not entertain the utterly unreasonable slander that has crept into teacher's books, that men and women care more for their horses and pigs, more for their money and pleasure, than they do for their boys and girls. Nay, there is not one parent in a hundred whose child is not dearer to him than all things besides. When these precious ones are committed to your care and keeping, it is evidence, not of parental indifference, but of a confidence so absolute in the virtue, wisdom, and integrity of those who teach and train the children of the people, that you should thank God for the reputation your profession sustains, and pray him that you may be worthy of a place in that profession.

It is not the infants only that interest and amuse the observer on the morning of opening day. It is not only Minnie in her A B C's, but also "Almira in the upper class," who studies chemistry, music, and French, and wears a roped and curled chignon; not only little Fred whose mind yet in the soft cartilage state, is sorely confused by the simplest object lesson, but also Charles Edward with misty mustache on lip and Latin lexicon in hand; with golden charms hanging to his watch chain, and, as he humbly conceives, manly dignity stamped upon his studious brow. Now roll the private seminary omnibuses along full

of lilies and roses that toil not nor spin. and the lilies and roses bend and not with peculiar sweetness as they meet Charles Edwin, and that linguistic beau moves gracefully on, a taller and happier man.

Meanwhile, the swarms increase in the vicinity of the school-houses. There assemble the children of the people—the rich, the poor—American, German. Irish—the robust, the feeble—the beautiful, the deformed—the intelligent, the stupid—the virtuous, the vicious—the children of the whole people. The hour strikes, the bells ring out their summons, and *it is books*. Success and pleasure crown both teachers and taught.—*Selected.*

There is no single power at work to corrupt, debase, and barbarize our language that can be compared with the secular press. An ambitious Bohemian reporter, intent on making a grandiloquent spread, always affects the majesty of grandiose words. A criminal is not hanged—he is "launched into eternity." A man does not take a meal—he "partakes of a repast." A gentleman does not go out for a walk, but for a "pedestrian excursion," and so on. "These are the people," says Landor, "who think they write and speak finely, merely because they have forgotten the language in which their fathers and mothers used to talk to them."

The Centennial State, Colorado, was formally admitted to the Union August 1st. Its number is thirty-eight.

The value of the taxable property in Ohio in 1875 was thirteen times that of Kansas.

Subscribe for OUR WORK.

OUR WORK.

A Christian Educational Monthly

Published on the 15th of each month.

Prof. L. F. WATSON, Publisher & Prop'r.

MRS. DRUE P. WATSON, Editor.

Pres't T. C. SMITH, Prof. B. F. McHENRY, Rev. J. J. SUMMERBELL, Associate Editors.

EDITORIAL NOTES.

"MAKE HASTE SLOWLY."—Now and then there comes a young man or woman who thinks the time allotted to the studies in the curriculum greater than necessary, and determines to do the work in one-half or two-thirds the time. This almost invariably proves fatal to real scholarship. The course is laid down to suit the average mind, with a margin of time, which, if properly used, will be of as much advantage as the time spent in regular class work. There will be subjects only hinted at in the text-books that other authors make perfectly clear, if you take the trouble to consult them. Each day is rife with subjects that might be investigated further. Those who rob themselves of the time for this outside work, do not seem to understand that the words "graduate" and "scholar" are not synonyms. An A. M., an A. B., or a B. S. attached to one's name, and the engraved parchment which makes it valid, if well earned, may give some moments of pleasure, but as passports into the world of literature, science, and art, are utterly worthless. A college course is a good thing, not because it brings titles, but because it affords opportunities for deeper and broader culture than can be found elsewhere.

Many of our students come from illiterate homes, where they were taught inaccuracies of speech that the mere study of language will not remove. It will take years of association with cultured people, and careful self-criticism, to overcome these errors of early education. Those students who rush through the course by doubling their work, miss the best opportunities for this kind of culture. They are so hurried with class work that they have no time for collateral reading—no time to carefully prepare the rhetorical exercises required of them; in fact, no time to cultivate any of those graces of manner and speech which form such an important part of a true education.

CLASS WORK.—Prof. McHenry, of Starkey, introduces a new feature into his department of OUR WORK, which we hope will be imitated by others. The examination papers given are the best presented by his class in Cæsar, at a recent examination. It is his custom to have a class review and examination on each book as soon as finished. The present class passed from the reader to Cæsar, and have finished the first book. He challenges our school to produce better examination papers from students of equal grade, the test to have reference to both quantity and quality of translation in a given time. The time allowed for his examination was thirty-five minutes. An exhibit of actual class work, now and then, will add much to the usefulness of OUR WORK, and we hope other teachers will furnish us with class exercises and examination papers.

OUR CABINET.—We visited the cabinet of U. C. College recently, and we must say we were much surprised. It must be somebody's business to take care of that room, but to all outward appearances it has been abandoned to the ravages of dust, spiders, and boys. The tables are covered with dust. No order is shown in the arrangement of specimens, very few of which are labeled. The floor is littered with nut-shells, and behind the door is deposited quite a store of walnuts, with mallet handy for cracking. The cabinet is quite an extensive one, and we would delight in taking our friends there if the room presented a neat appearance.

THE CENTENNIAL GIFT.—President Smith is making a strong effort to secure $1,000 for library fund. He is sending out an "appeal for help" to agents, who undertake to solicit funds for the purpose of purchasing books for an addition to the library of U. C. College, to be called "The Centennial Gift to Library of U. C. College by Christian Women." Each lady agent canvasses her neighborhood and church, and at the close of her work sends the names of doners, with amounts donated set opposite the names, together with the whole amount of money taken, to President Smith, who acknowledges the same in the *Herald* and OUR WORK. It is important that a thorough canvass be made. To this end we call for volunteers to assist in this very important work. On request, President Smith will furnish each reliable applicant with an outfit necessary for the canvass. Is not "your heart with us in the work of making U. C. College worthy of us as a people," and the peer of any college in the West? If this money is raised it will be by individual effort. We ask you, dear friends, to engage in the work. Let every one who reads this note see to it that the canvass is commenced and *finished* in his or her neighborhood. We are

anxious that a good report shall come up from every one of the localities visited by Our Work. Address all communications in reference to this matter to President Smith.

Literary Societies.—The societies commenced their year's work under circumstances not the most favorable. But earnest work on the part of the members of both societies soon produced a different state of affairs. The Linconia has added many new members, and is now stronger than it has been for many years. The Franklin has enlisted the earnest work of all the old members in town, and the exercises each week are very good. The members of both societies show an interest in the work seldom surpassed.

Lessons in Zoology.—Owing to circumstances over which he had no control, Prof. D. J. Evans has not been able to prepare his notes on zoology in time for this number of Our Work.

Prize.—Very neat papers, containing sentences corrected that appeared in the October number, were received from E. H. Barret, of U. C. College; Lillian A. Fuller and Wendell P. Elkins, of Proctor Academy. The prize has been awarded to Wendell P. Elkins.

An English lady observed an aged German peasant stooping in his little patch of ground, all his earthly possession, to pick the pears which fell from its one tree, and said to him:

"You must grow weary in such labor at your time of life, so bent and humbled with infirmity."

"No, ma'am. I have been, in my time, God's working servant. He has promoted me to be his waiting one. One of these days, when I fall, he will pick me up."

SCIENTIFIC NOTES.

The value of perfume farms may be estimated from the fact that one acre of jasmine has produced over one thousand dollars, and one acre of violets eight hundred dollars.

The signal service has established a station on the summit of Pike's Peak, about 11,000 feet above the sea. Reports of the weather are to be sent thence to Washington by telegraph three times each day.

In a recent paper on the aurora borealis by M. Donati, the learned author explains these phenomena on the hypothesis of electro-magnetic currents passing from the sun to the planets, and having for their vehicle the ether, which fills all space.

Iron states that at the last meeting of the Society of Civil Engineers, Mr. Asselim recommended the use of glycerine to prevent incrustations forming in steam boilers. One pound of glycerine should be placed in the boiler for every four hundred pounds of coal burned.

Professor Williamson says: "If we find a coal seam we look upon it as wasteful not to work it and make the most of it. To leave the clear heads of our countrymen untilled is more wasteful, as they are infinitely more valuable than any coal seam that ever was discovered."

It is suggested that the invisible inks might be used in carrying on correspondence by postal cards. Among such inks some, like the chloride of cobalt, give a writing which is illegible until it is warmed before the fire, while others are rendered legible by the application of a suitable chemical—a weak solution of sulphate of iron, developing a clear black writing when moistened with a solution of galls.

It is said that old seeds placed in a solution of oxalic acid or of ammonia will germinate in one or two days. In 1834 wheat was exhibited before a German scientific association, that was raised from seed found in an Egyptian tomb, where it had lain for some 2,500 years. This was soaked in a fatty oil before planting.

According to the *Engineer*, the following are the highest authentic instances of high railway speed on Engligh lines: "Brunel, with the Courier class of locomotives, ran 13 miles in ten minutes, equal to 78 miles an hour. Mr. Stirling, of the Great Northern, took 16 cars fifteen miles in twelve minutes, equal to 75 miles an hour. Three of the broad gauge engines on the Great Western Railway have each run, with four or five cars, from Paddington to Didcot in 47½, equal to 66 miles an hour, or an extreme running speed of 72 miles an hour; and the new Midland coupled express engines, running in the usual course, have been timed 68, 70, and 72 miles an hour. The timing of the morning express on the Great Northern from Leeds, shows them to run mile after mile at the rate of a mile in fifty-two seconds, or 69.2 miles an hour—the engines used being Stirling's outside cylinder bogie express engines, and the load being 10 cars."

Talking by Telegraph.—What would our grandfathers have said if some person had told them that in this year, 1876, the means would be found to enable two persons, situated miles apart, to carry on a spoken conversation with each other? We can fancy the derision with which such an announcement would have been greeted. Perhaps we, who have almost ceased to be astonished at any feat the science of the nineteenth century can accomplish, should have been just as unbelieving one year ago.

But it has been done. On the evening of October 9th, two men, one Alexander Graham Bell, the inventor of what he calls the telephone, and Prof. Thomas A. Watson, of Havard University, carried on for hours a conversation by means of a telegraph wire, which separated them two miles. Mr. Bell was in Boston, and Mr. Watson in Cambridgeport. The gentlemen even tried to converse in a whisper, and the sound was heard, although the words could not be distinguished.

No full description of the instrument by means of which this marvel has been wrought, has been published. Probably the process could not be explained so as to be understood by any but those who are learned in telegraph science. The sound of the words spoken strikes against a tightly-stretched membrane, and causes changes in the force of the electrical current. These changes are of course equally great at the other end of the line, and are developed and reconverted into the sound of spoken words.

Each of the two gentlemen we have named took notes of the conversation they carried on, and the reality of the communications is is proved as much by the slight differences in the two reports as by the agreement of the two in most of the sentences.

Thus, after the whispering experiment, Mr. Bell, the inventor, said, "I could hear you whispering, but could not understand what you said," and Prof. Watson heard this perfectly, and wrote the remark down in those exact words.

But when Mr. Bell said, at another time, "We may congratulate ourselves *upon a* great success," Prof. Watson understood him to say, "We may congratulate ourselves *on our* great success."

Now that the principle of "tele-

phony" has been discovered, it is only a question of time when it will be so perfected in the process as to push aside telegraphy, as a slow and clumsy means of communication.

Let us look into the future. The coming telegraph operator is merely a swift short-hand writer. The business ceases to be a skilled profession for the great number of offices where speed is not necessary. A good pair of lungs for sending long messages will be sought for instead of a nimble forefinger, and for receiving despatches a pair of quick ears will be the best equipment.

There is no reason why a verbatim report of a debate in congress should not, in a few years at the longest, be sent to distant points over a single wire, and be written down in short-hand at the place where it is received almost before the echo of the last speaker's voice has died away. In fact, the possibilities of communication by this wonderful invention are so great that he would be a bold man who would set a limit to them—*Youths' Companion.*

When the electricity is applied to the cable at one end, two-tenths of a second pass before any effect is felt at the other end, and three seconds are consumed before the full force of the current is in action. The first signal is felt in four-tenths of a second, but the following ones go through more rapidly. As many as seventeen words have been sent over the Atlantic cable in one minute; fifteen can usually be sent under pressure, and twelve words a minute is a good working rate. Messages of twelve words have been sent all the way from New York to London in two minutes. A fact not yet explained by the scientists is that electricity does not move as rapidly from New York to London as in the opposite direction.

OUR EXCHANGES.

The Lawrence Collegian is a good monthly, and we gladly welcome it as an exchange. It deserves the support of every student and friend of the university.

It is indeed very seldom that we have the pleasure of reading such an excellent article as that on "Æsthetic Culture" in the November number of the *Ohio Educational Monthly.* Such articles are seldom written.

We gladly enter as an exchange *Our Monthly*, devoted to literature and fashion. It is a large twenty-page magazine (quarto); only fifty cents a year. L. S. Ayres & Co., Indianapolis, Indiana.

The College Record comes to us greatly enlarged and improved. Prof. Fischer, who has been spending the last year in Germany, is again at Wheaton, and gives *The Record* an interesting article on "Heidelberg." We read with profit the instructive article on "Music." Such papers as *The Record* do a good work for the institution represented.

We are glad to enter *The Asbury Review* on our exchange list. We are somewhat surprised at its uncouth appearance. If we were controling it we would have better typographical work done by the old printer or else secure a new and better one. We would also recommend that the reading matter be put in a more compact shape. Do you *believe* in inflation? Had you not better try reform?

In justice to the *Review*, we must say that the contents of the October number are good. We were especially pleased with Prof. Ridpath's Centennial poem, and the notes by the exchange editor.

The September number of the *W. Va. Educational Monthly* is upon our table, and contains a vast amount of information valuable to every teacher and friend of education in the state. It is the last number of the fourth volume. Its fifth volume will begin with the new year, and will be much improved in every respect. A five years' existence has given to this home publication a permanency of character that should enlist the friends of education in its favor. The subscription price has been reduced to $1.25 in clubs of ten. BLAIR & GIBBENS, Parkersburg, W. Va.

We are happy to make the acquaintance of *Qui Vive*, of Shurtleff College, Illinois. It abounds in choice literature. In the editorial department is found a full report of the inter-collegiate oratorical contest, held at Evanston, October 5th. The judges awarded the first prize to Perry Baird, of Chicago University; in the case of the second there was a tie between Mitchell, of Shurtleff, Little, of Knox, and Bristol, of Northwestern, but the final decision settled the honor upon Knox. We can report a better state of things at U. C. C. than that indicated by the following item—also found in the editorial department:

"The influence of chapel exercises for good can not be denied. The meeting together of a body of students for religious services in the morning, must give a healthy moral tone to all subsequent exercises of the day. But much of the influence of this hour of devotion is lost by the negligence of the faculty. It would seem as if there was a rivalry between the professors, to see which one could be absent the most frequently. A poor insignificant sub. is disciplined for his absence, but these magnates are untroubled. There may be extenuating circumstances, but we think that in most instances no good excuse could be given. We hope, in the future, to see at least two or three members of the faculty present at each exercise, as giving weight and efficiency to the services."

They are contending with a lukewarm church—and so are we.

Racine College, Wisconsin, is a very worthy institution, but its paper, *The College Mercury*, does not indicate it. The article on "Reform," in the October number, is quite "schoolboyish." The following "first-class poetry" (?) is taken from the local items:

"I'd like to be
A muskeeteer,
With pensive song,
And bill so long,
I'd sweetly sing,
While on the wing,
If I were but a muskeeteer.

I'd like to be
A little boy,
With a piece of bread,
And a frowzy head,
I'd stand on my head
'Till my face got read,
If I were but a little boy."

"How I'd like to bust the snoot
Of the man who plays the flute
And fiddle."

The Earlhamite is the first to put in its appearance for November. "Our Game Birds," introduced in the October number, continues with a well-written article on the "Wild Turkey," abounding in interesting facts and figures. The article on "Lehigh Valley" brought vividly to our minds how we, like the writer, adjusted the inclination of our body in order to maintain the equilibrium of the cars while passing around the unexpected curve of the mountains between Mauch Chunk and Wilkesbarre. We know *The Earlhamite* will feel complimented when we say that it is a narrow columned exchange. We can not account for the

connection between wide columns and stupidity, and yet we have observed it, and, in the observation, we trust that egotism has not clouded *our* perception, either.

The following are also acknowledged: *The New Era*, *Sullivan County Union*, *Robinson Argus*, *The Oberlin Review*, *Youth's Companion*, *New York School Journal*, *American Journal of Education*, *The Reporter*, *University Herald*, *Canadian Teacher and Home Companion*, *Indiana School Journal*, *Parents' and Teachers' Monthly*, *Common School Teacher*, *College Herald*, *College Mirror*, *The School Reporter*, *College Journal*, *School Bulletin*, *The High School*, *Jenkintown Pestle*, *Cornell Review*, *Literary Reporter*, *Irving Union*, *College Message*, *The Simpsonian*, and *The Western*.

A sensible lady writer discourses as follows to "smitten" youths, who need to be told how to do their courting. If this counsel were followed, love-making would cease to be made fun of:

In the first place, it is an imposition on any well-bred girl to keep her up later than half-past ten o'clock, when you have the opportunity of seeing her often. If you always leave her with the wish in her heart that you had stayed longer, you gain much. Never run the risk of wearying her with your presence. Be just as earnest and straightforward as in your honorable dealing with men. Impress your friends with the worthiness and seriousness of your love, so that vulgar and senseless bantering will appear to them as such. Love in religion—the supremest happiness—wear it manfully and proudly, but boldly. Woo a woman bravely. If there is any thing humiliating to a woman, it is to have a lover whom she wishes to honor, weak and vapid, ever yielding, and half afraid of her.

COLLEGE PERSONALS.

F. D. Donaldson is teaching school near Ogden, Illinois.

Wm. H. Paston has charge of the Paxton schools of this county.

Miss Belle Stephenson is at Danvers, McLean County, Illinois.

On November 2, 1876, a nameless daughter was added to the family of Jas. C. DeVore.

N. B. Bristow and Rilla Rundle, both of Crawford County, Illinois, were married last month.

Prof. Watson has resigned his office as trustee of the town of Merom. Thos. Hays succeeds him.

B. S. Thompson is teaching school in Crawford County, Illinois, near Hutsonville. He is doing good work.

W. R. Muncie is principal of the Center Point High School of Clay County, Indiana, and is doing good work.

Miss Laura F. Jones paid us a short visit last month. She is still at her old home in Lawrenceville, Illinois.

How we all rejoiced to see the happy faces of Lu Baker and Annie Arnold among us again. They are both teaching near Carlisle.

Mrs. Sarah E. Garwood is preaching to the Swan Creek Christian Church, of the Northwestern Ohio Conference, near Delta, Ohio.

The Robinson *Argus*, of November 8th, announces that a marriage license has been granted to Chas. W. Hawkins and Sarah Ann Warner.

Geo. W. Wright has again moved—this time to Weldon, DeWitt County, Illinois. He is teaching, and, of course, wants OUR WORK to follow him in his travels.

Prof. Davis attended the annual meeting of the State Y. M. C. A. Convention, at Richmond, Indiana, and while there was elected vice-president of the convention.

C. C. Brown has bought the office of *The Courier*, Edinburg, of this state. He proposes to make the *Courier* "one of the best family papers published in Johnson County."

We are pained in announcing the death of Martin L. Buff, whose recovery from his severe sickness seemed so probable at the time of publishing the last number of OUR WORK.

Died, November 18, 1876, very suddenly, near Lawrenceville, Illinois, Jas. Ruark, a student of last year at U. C. College. Mr. Ruark had been engaged in teaching, in order to raise money sufficient to enable him to attend college again next year.

COLLEGE LOCALS.

The first term of the present college year closed November 29th. It has been a very prosperous one. Good order, close application to the legitimate duties of the school, and good work, have characterized it. President Smith wears well, and all are well pleased with his management of affairs. Bringing to his work a ripe experience, a good knowledge of human nature, a very agreeable manner, and a genuine love for the work, he is doing much, very much, for our beloved *Alma Mater*.

The entertainment of the Linconia Society was given on Saturday night, November 25th. The audience was a large one, and was unusually attentive. The first exercise was an address of welcome, by Will. E. Smith, the president of the Society. It was a neat little speech, greatly marred, however, by unfriendly allusions to the Linconia Society. "The New Era" was the subject of a very instructive and interesting essay, read by Miss Maggie Hays, of Merom. She referred to the corruption in our nation—especially displayed in the administration of public affairs, and recommended, as a remedy, self-examination, purity at home and personal integrity. Intemperance and its twin spirit, tobacco, were condemned in strong terms, and pure manhood was held up for admiration. A new declaration of independence was offered, in which it was resolved that we secure our best development, to dress right, eat right, sleep right, and do right. "An era of peace on earth, and good will to man." This essay was followed by a very appropriate song, given by the whole society, entitled, "Wine is a Mocker." Every word was rendered perfectly distinct. Following this was a well-rendered declamation on "Duty of Literary Men to their country," by Wilson Chapman, of York, Illinois. J. P Alverson reviewed the lives and acts of the late Presidential candidates in an essay entitled "Merit." Tilden was not, evidently, the choice of the writer. The declamation which followed, given by Miss Carrie Wood, was well offered, and received the applause of the house. The lady has considerable talent in this direction. "Official Corruption" was the theme of Ed. Ward, who next spoke. The gentleman took a very philosophical view of the subject. His delivery was inclined to be monotonous. "The Linconia Miscellany," the society's paper, was read by Miss Fannie Wood, whose clear voice, pleasant appearance, and excellent judgment, rendered the paper the most enjoyable production of the evening. Among the contents were a poem by T. C. Smith, written in his college days, and a review of

"Caudle Lectures" by a member of the society. The entertainment closed with a "Prophecy," by E. H. Barrett, carried down to the year 1890. Its reading elicited many a hearty laugh, and the predictions were quite true to nature. We can not close this article without saying a word in praise of the music, which was interspersed throughout the programme. The quartet, "Gathering Shells," by Misses Wasson, Prof. Davis, and Mr. Wasson, and the duett, "Murmuring Sea, by the Misses Wasson, were very fine indeed.

On Monday evening, November 27th, a still larger crowd was present to enjoy the entertainment, offered without price, by the Franklin Society. The following was the programme: Music; Invocation; Music; President's Address, A. A. Holmes, Hutsonville, Illinois; Oration, "Forward March," John Wood, Merom; Music; Declamation, "The Closing Scene," Emma Larr, Merom; Essay, "Fame of Woman," Ida Gray, Merom; Music; Debate, "Is Conscience a Reliable Guide"—Affirmative, G. W. Finley, E. W. Heath—Negative, J. M. Ward, W. A. Mitchell; Music; Melange, W. Chester Wallar, Merom; Oration, "Agitation a Means of Progress," J. Myers, Beloit, Ohio; Duett, Misses Ida Gray and Florence Harvey; "Franklin Whetstone," Editor, M. P. Ward, Merom; Music, 'Seventy-Six;' Benediction. Taken, as a whole, the entertainment was quite good, yet was not up to the Franklin's usual high standard. Among the best performances of the evening were the president's address, by A. A. Holmes, "Forward March," by John Wood, Ward's and Finley's speeches in the debate, Joel Myers' oration, and the paper by M. P. Ward. The instrumental music was excellent; the vocal music was marred by very indistinct enunciation. Mr. Wood's oration consisted of a review of our nation, and the great progress we have made in the world of thought. A pleasant delivery rendered this oration quite enjoyable. Miss Emma Larr's declamation was a good selection, and the rendering very natural and easy. We doubt, however, if many heard it in the back part of the chapel. Miss Ida Gray argued in her essay, "The Fame of Woman," that woman's fame consists in her ability to train the young. The greatest work a true woman can do is to be able to lead her children into correct habits and thoughts of life, causing them to develop into noble manhood and womanhood. Extravagance was strongly condemned. Like Miss Larr, this lady read too low. Why can not our ladies learn to read and speak in public so as to be heard? If one reformation more than any other is needed among the lady students in Merom, it is in this very particular. "The Melange," by N. C. A. Wallar, was also spoken too low. The young man showed good taste and considerable ability in getting up his dish of varieties, but in dealing it out it was not distributed throughout the audience. "Agitation a Means of Progress," by Joel Myers, was an oration full of thought and truth. He showed that all reforms are brought about by agitation and opposition. A reformer must be a benevolent person—he must be self-sacrificing. Luther, Mrs. Stowe, and Wendell Phillips, were cited as examples of great reformers. Political parties do a good work in exposing frauds and corruptions, and it is done by violent agitation. We must agitate or perish. "The Whetstone" was very enjoyable, and reflected credit upon the editor, Mr. M. P. Ward. It was free from all objectionable matter, with varied contents, and was read in good style.

ASTRONOMICAL NOTES.

MAGNITUDE OF STARS.

Mars rises about fifteen minutes of four in the morning. On the 11th of December it passes within five degrees (north) of the moon at eleven o'clock P. M.

Venus rises fifteen minutes after four in the morning, on the 15th of the month. It is about forty-five degrees ahead of the sun. It is very brilliant, and may be seen in the southeast even after sunrise. Its conjunction with the moon takes place on the afternoon of the 12th.

Jupiter sets about ten o'clock P. M. on the 15th. At 8:42 P. M., on the 14th, this planet passes within six degrees (north) of the moon.

Orion, the most brilliant constellation of the heavens, is now visible, and will be for the next five months. Rigel, the most brilliant star of the group, rises about 8 P. M. on the 1st of the month. It is south 10:41 P. M. on the 27th.

ORION.

"Orion is represented under the figure of a hunter assaulting Taurus. He has a sword in his belt, a club in his right hand, and the skin of a lion in his left. Four brilliant stars, in the form of a parallelogram, mark the outlines of Orion. Betelgeuse, a beautiful ruddy star of the first magnitude, is in the right shoulder; Bellatrix, of the second magnitude, is in the left shoulder; Rigel, of the first magnitude, is in the left foot; and Saiph, of the third magnitude, is in the right knee. Near the center of the parallelogram are three stars, forming '*the belt of Orion*,' called also the 'Bands of Orion' (Job XXXVIII. 31), 'Jacob's rod,' but more commonly, the 'Ell and Yard.' They received the latter name because they form a line just three degrees long, divided in equal parts by a star in the center. Running from the belt, southward, is an irregular line of stars, which marks the sword; and west of Bellatrix is a curved line, denoting the lion's skin. South of Orion are four stars, forming a beautiful figure styled the 'Hare.'

"MYTHOLOGICAL HISTORY.—Orion was a famous hunter. Becoming enamored of Merope, he desired to marry her. Œnopion, her father opposing the choice, took a favorable opportunity, and put out the eyes of the unwelcome suitor. The blinded hero followed the sound of a cyclop's hammer, until he came to Vulcan's forge. He, taking pity, instructed Kedalion to conduct him to the abode of the sun. Placing his guide on his shoulder, Orion proceeded to the east, and at a favorable place—

'Climbing up a narrow gorge,
Fixed his blank eyes upon the sun.'

The healing beams restored him to sight. As a punishment for having profanely boasted that he was able to conquer any animal the earth could produce, he was bitten in the heel by a scorpion. Afterward, Diana placed him among the stars, where Sirius and Procyon, his dogs, follow him, the Pleiades sail before him, and far remote is the Scorpion, by whose bite he perished."—*Steele.*

WEAUBLEAU INSTITUTE.

Weaubleau City, Mo., December, 1876.

WILLIAM J. HAWKINS, Local Editor.

[All students and friends of Weaubleau Christian Institute, who desire that their whereabouts and labor may be known to the readers of OUR WORK, will please contribute to this department. Any original production that you think will interest or profit our readers, or even a letter telling us where you are and what you are doing, will be gladly received, and will be given due attention. Address Wm. J. Hawkins, Weaubleau City, Missouri.]

PERSONALS.

Mr. A. L. Lacy is teaching school in Benton County, six miles north of Warsaw. Address is Warsaw, Missouri.

Our warm friend, Wm. L. Sindow, was re-elected to represent our county in the next General Assembly.

Mr. Wm. D. Harryman, a student here during the first year, has been re-elected sheriff of this county by a large majority. Our county is beginning to appreciate good qualifications and honesty.

Mr. John T. Gentry is teaching near Quincy, in the same district where he taught last year. Why is it that so many Weaubleau students are re-employed this year? It must be that they have been doing good work.

LOCALS.

Forty students enrolled this term.

The Platoina Society will give a concert at the close of this term.

The public entertainment at the middle of the term was decidedly a success.

"How is Cæsar?" is the morning greeting among the members of the senior Latin class.

Work on the chapel is progressing rather slowly. However we hope that during the winter the plan will be carried out in full.

One of the best evidences we have of progress, is the increased interest of the pupils. No time in the history of the school has there been so much earnestness and industry. Seemingly, every one has adopted the motto, "Excelsior."

The question, *Resolved*, That war is, and has been, a greater evil than intemperance, was discussed in the society one evening last month by four young ladies. They handled the subject in a very able manner, giving their arguments earnestly, forcibly, and conclusively.

The Bible lecture each Sabbath, at 3 o'clock, P. M., is well attended. It is a most excellent addition to the exercises of the school, furnishing a rare opportunity of hearing a thorough analysis of many of the most important subjects contained in the Bible. No student should be absent on account of a trivial hindrance.

In deciding questions of truth and duty, remember that the wrong side has a crafty and powerful advocate in your heart.

"I never go to church," said one; in settling accounts." "The day of judgment will be spent in the same way," was the reply.

Not the most learned, eloquent, forward, wealthy, influential, talented, or pious man, but the one best adapted for the work, is to be chosen to superintend the school.

CHRISTIAN BIBLICAL INSTITUTE.

Stanfordville, N. Y., December, 1876.

W. T. Mills, - - Local Editor.

In spite of singing, evening lectures, and prayer-meetings, we have one evening of the week to ourselves —that of Thursday.

Our literary society is doing its work well. Such questions are discussed as are of importance and interest; for instance, "Did the divine nature of Christ grow?" "Is the government of God a perfect one?" "In what sense, and why, did God harden Pharaoh's heart?" These questions are discussed, not *debated.* Considerable interest is often manifested by our visitors, who quite frequently take part in our deliberations.

"Our Work" meets with a hearty welcome here. It finds us still working away at Greek, Hebrew, metaphysics, rhetoric, and vocal music, besides listening to three lectures daily by our president, who is trying, and, we trust, succeeding, to make in our minds and hearts straight the way of the Lord. Visitors come and go, leaving us, as they find us, earnestly endeavoring to give an affirmative answer to the question: "Canst thou, by searching, find out God?" Not that we shall solve the mystery "in which we move, and of which we form a part," but that we may learn enough of the relations which we sustain to God and man to enable us to engage in the service of the one and contribute to the salvation of the other. The best of feeling exists among us. Surely we are *all* members of one family. Each day, at the students' home, we have noon-day prayer-meeting, where we cherish a nearer fellowship with one another, and a more perfect walk with God.

PERSONALS.

Sister H. S. Haley soon goes to St. Johnsville, N. Y., to assist in a series of meetings.

Prof. E. C. Livingston (not Swingston), of the institute, supplied the Stanfordville pulpit not long since.

G. A. Beebe *charges* books to us—librarian—the library being an important feature of our school.

Alpheus Iden is with us no more. He has gone to Ohio to engage in the work of his choice. Our best wishes have gone with him.

Wm. D. Lain looks after the *students' home*, which really is a home to us, well-named, well-kept. In fact, it would be difficult to point out any thing that is not *well* with us.

Dr. Craig is giving us a course of evening lectures on such subjects as "The Earth—Its Points of Interest Physically Considered, and their Influence on Man," and "The Transmission of Ancient Books."

The oldest student in the last graduating class at Michigan University was at time of graduating 35yr. 11m. 17d.; the youngest, 19yr. 11m. 25d., and the average 23yr. 7m. 17½d., and the aggregate ages were 1796yr. 9d. The heaviest weighed 190lbs., the lightest 107lbs., and the average weight was 151lbs., and aggregate 11,469. The tallest was 6ft. 3in., the shortest 5ft., the average hight 5ft. 7in., and the aggregate 429ft. 4¾in. It should be remembered that 12 of the class were ladies.

PUBLISHER'S NOTES.

The new American Cyclopædia placed in the college library last summer, holds daily consultations with pupils and professors. It is an invaluable work to all students who have not access to a very large and complete library, and even then saves much time from vexatious searching for the desired information where it is not, or in condensing it into available form. We call attention to the fact that it may be purchased in parts—one volume at a time for that matter—and is thus placed within reach of every one. Read the advertisement of it in this number.

Mr. Daniel F. Beatty, of Washington, N. J., the energetic and persevering manufacturer of the Beatty Piano and Golden Tongue Parlor Organs, deserves the highest credit for having produced the most perfect musical instrument combined with the utmost beauty and chasteness of design yet offered the musical public. See his advertisement on another page. Address Daniel F. Beatty, Washington, N. J., U. S. A.

New Hymn Book—Latest Out.—A neat and convenient volume, entitled Spiritual Hymns, is just from the press. It confidently claims to be the best adapted to all religious meetings—prayer-meetings, praise-meetings, protracted-meetings, Sunday-schools, etc.—embracing, as it does, the old and the new hymns that are most pure, inspiring, helpful, and scriptural in sentiment, and most used in all parts of the country and among all denominations. A large number of the hymns in this valuable collection are those sung in the Moody and Sankey meetings in England, New York, Philadelphia, and now in Chicago. The book is the result of twenty years' experience in the publication of religious literature, and in pastoral and evangelistic labor, and is believed to be the best adapted, of any convenient sized, neat and cheap work in the market, for pulpit use, home use, prayer and praise-meetings, anniversaries, Christmas, Christmas-trees, Sunday-schools, all special occasions, etc. With the hyms of this book there are nearly all of the best of both the old and the new tunes—the tunes now most used in all churches. Price, wholesale, bound in heavy, neat, durable board, ten copies for $3.00, and same rates for larger orders. Sample copies will be sent for thirty cents. In fine leatheret binding, forty cents per copy. Address, H. Y. Rush, Dayton, Ohio.

Are you truthful? Perhaps you will say at once, "Yes, of course we are?" and think it strange we ask the question. But hold still a moment! Did you never peep into your spelling-book, or grammar, or geography before it came your time to recite at school, so as to answer all right when you were called on? Did it seem just the honest thing to dodge your head down under your desk the other day, to eat that big apple that you had carried for recess? Was there no harm in "letting on" that you had not learned your lesson, just so your mates would neglect theirs? True, you did not *say* any thing, but—are you honest? Are you, in other words, truthful?

If you have talents, industry will improve them; if moderate abilities, industry will supply their deficiencies. Nothing is denied to well directed labor; nothing is ever to be obtained without it.

Remember thy Creator in the days of thy youth.

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